

breadth of brain-case 7·7; palato-sinual length 6·6; maxillary tooth-row 6·1; outer breadth across canines 3·9.

*Hab.* Admiralty Islands and Bismarck Archipelago. Type from Manus Island.

*Type.* Adult (probably male). B.M. no. 14. 4. 1. 10. Original number 13. Collected 8th September, 1913.

This species is readily distinguishable by the enlargement of its canines, a development which reaches its extreme in the great sabre-like canines of *Phoniscus*. Indeed, I do not feel sure how far the status of *Phoniscus* as a distinct genus will be affected by the condition found in *K. myrella* and *agnella*, in each of which something of its character is shown.

I may note here that on Mr. Miller's suggestion I have examined the types of *Kerivoula papuensis*, Dobs., and *K. javana*, Thos., and find them both to be clearly referable to *Phoniscus*.

#### 12. *Emballonura solomonis*, Thos.

Three from Manus and three from Ruk Island.

As happens so frequently, the Bismarck Archipelago form is quite like that of the Solomons, while the New Guinea one is distinct. The latter is described in the next paper.

#### 13. *Epimys browni*, Alst.

Three. Manus Island.

#### 14. *Phalanger maculatus krümeri*, Schwarz.

Two specimens (and two in Tring Museum). Manus Island.

#### 15. *Phalanger orientalis*, Pall.

♂. Ruk Island.

#### 16. *Echymipera cockerelli*, Rams.

♂. Admiralty Island.

L.—*New Asiatic and Australasian Bats and a new Bandicoot.* By OLDFIELD THOMAS.

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*Eptesicus pumilus caurinus*, subsp. n.

General characters as in *pumilus*, but size smaller, the forearm about the minimum for the species, and the skull conspicuously smaller.

Colour dark, the tips of the hairs drabby grey; under surface not lighter than upper. The specimens, however, have been put in fluid and then dried, so that the colour may have been affected.

Skull very small and delicate, less flattened than in true *pumilus*, the brain-case high, rounded, well inflated in the frontal region, narrower than in *pumilus*. Teeth as in *pumilus*, but slightly smaller throughout.

Dimensions of the type:—

Forearm 30 mm.

Skull: greatest length 11·2; basi-sinual length 8·5; mastoid breadth 6·5; maxillary tooth-row 4·0.

*Hab.* Drysdale, Kimberley, N. Australia.

*Type.* Adult male. B.M. no. 14. 3. 9. 1. Collected by G. F. Hill, and presented by the West Australian Museum, Perth. Four specimens examined.

This little bat has so much smaller a skull than ordinary *E. pumilus* that it would seem at first sight to be a different species, but intermediate specimens seem to occur, as notably one from Port Walcott, N.W. Australia, so that I think it better to describe it as a subspecies of the common form. I owe the opportunity of examining the typical series to Mr. B. H. Woodward, of the Perth Museum, where two of the paratypes will be preserved.

*Eptesicus pumilus vulturinus*, subsp. n.

Size and general characters as in true *pumilus*, but colour much darker.

Colour above dark auburn-brown, the bases of the hairs blackish brown. Below, the surface-colour is but little lighter, though of a rather more drabby tone.

Skull low, flattened, its size about as in true *pumilus*.

Dimensions of the type (measured on the skin):—

Forearm 33 mm.

Skull: greatest length 12·5; basi-sinual length 9·6; mastoid breadth 7·3; maxillary tooth-row 4·5.

*Hab.* Tasmania.

*Type.* Adult female. B.M. no. 7. 1. 1. 375. 29 D of Tomes Collection. Obtained by Mr. Tomes from J. P. Verreaux. Other specimens collected and presented by Mr. Ronald Gunn.

A dark "saturate" race of *E. pumilus*.

*Murina huttoni rubella*, subsp. n.

Essential characters of the N.-Indian *huttoni*, but the

colour dark rufous brown (rather warmer than "sayal-brown" of Ridgway). Underfur tipped with rufous brown, longer hairs glossy golden brown. Under surface rather paler than upper on sides, and still paler down the median area, but without strong contrasts. Interfemoral rather more hairy than in *huttoni*.

Dimensions of the type:—

Forearm 37.5 mm.

Skull: greatest length 18.2; basi-sinual length 13.7; front of canine to back of  $m^3$  6.2.

*Hab.* Kuantun, Fokien, China.

*Type.* A hult male. B.M. no. 8. 8. 11. 6. Collected 21st Sept., 1896, and presented by F. W. Styan. Seven specimens, all from Kuantun, presented by J. D. la Touche and F. W. Styan.

A fresh skin of true *M. huttoni*, recently obtained by the Bombay Survey from Kumaon, is very much greyer than the uniformly rufous series from Kuantun. And the same is the case with a skin from Darjiling presented by B. H. Hodgson.

Dobson assigned *M. huttoni* to Milne-Edwards's *M. leucogaster*, but that animal is very considerably larger, its forearm 41 mm., and its skull (as figured) 20 mm.

#### *Kerivoula flora*, sp. n.

General characters of *K. hardwickei*, but larger and more robust throughout. Colour, distribution of fur, and structure of ears and tragus as in that species, so far as can be made out on a spirit-specimen.

Skull essentially as in *hardwickei*, but decidedly larger. Brain-case rather more inflated anteriorly than posteriorly. Muzzle as in typical *Kerivoula*, not as in *Phoniscus*.

Teeth similar in proportions to those of *K. hardwickei*, the canines not enlarged as in *K. myrella*, but, if anything, rather smaller in proportion than in *K. hardwickei*. Premolars as in the latter species.

Dimensions of the type (measured on the spirit-specimen):—

Forearm 39.5 mm.

Head and body 43; tail 49; ear 13; tragus on inner edge 8; third finger, metacarpus 40, first phalanx 19; lower leg and hind foot (e. u.) 26.

Skull: greatest length 16; median upper length 13.4; zygomatic breadth 10; intertemporal breadth 3.5; breadth of brain-case 8; palato-sinual length 7; maxillary tooth-row 6.2; breadth across canines 3.8.

*Hab.* S. Flores.

*Type.* Adult female. B.M. no. 97. 4. 18. 22. Collected by A. H. Everett.

This species is a large ally of *K. hardwickei*, and has nothing of the peculiar increase in size of the canines characteristic of *K. myrella*.

*Emballonura stresemanni*, sp. n.

Most nearly allied to *E. raffrayana*, Dobs., but the skull larger and the ears thinner, narrower, and more pointed.

General characters as in *raffrayana*, the tragus similarly truncated and nearly parallel-sided. Nostrils circular, far apart, the notch between them unusually deep, so that they are more distinctly tubular than in other species. Ears slender, narrow, the inner margin very slightly convex, the tip narrowly rounded, the outer margin straight or faintly concave above, then convex, with a well-defined basal lobe, separated by a distinct notch.

Skull very similar to that of *E. raffrayana*, but larger throughout. Muzzle broad, not specially inflated laterally; frontal region with a broad median groove running back to the level of the intertemporal constriction. Basisphenoid concavity divided into two by a single median ridge, but not into four by the presence of two supplementary lateral ridges, as is the case in the single skull of *E. raffrayana*.

Dimensions of the type (measured on the spirit-specimen):—

Forearm 41 mm.

Head and body 46; tail 6; ear 13.5; tragus on inner edge 3.6; third finger, metacarpus 36.5, first phalanx 10; lower leg and hind foot (c. u.) 24.5.

Skull: greatest length 16; basi-sinual length 12.2; anterior breadth 7.6; breadth of brain-case 7.2; front of canine to back of  $m^3$  5.3.

*Hab.* Mt. Lumutu, Western Ceram.

*Type.* Adult female. B.M. no. 13. 3. 6. 29. Collected and presented by Herr E. Stresemann. Five specimens, all females.

This species is distinguished from *E. raffrayana*, to which alone it is related, by its comparatively long and narrow ears and its larger skull.

I may note, on the authority of Prof. Trouessart, that the locality given by Dobson for *E. raffrayana*, Gilolo, is an error, and that its true locality is Mefor Island, Geelvink Bay, Western New Guinea. One of the typical specimens is in the British Museum.

*Emballonura nigrescens and its Allies.*

A study of these and the material in the Museum shows that three species of the *nigrescens* group may be distinguished, as follows:—

- A. Size larger: forearm about 35–38 mm. Skull longer (upper length about 12 mm.), low, the brain-case not specially inflated and the muzzle fairly long; no mesial septum in the basisphenoid pit. (Solomon Island, Bismarck Archipelago, Admiralty Islands.) . . . . . *E. solomonis*, Thos.
- B. Size rather smaller: forearm about 34 mm. Skull rather smaller (upper length 11 mm.), shaped about as in *solomonis*. A well-defined mesial ridge in the basisphenoid pit. (Amboina and Buru.) . . . . . *E. nigrescens*, Gray.
- C. Size as in *nigrescens* (forearm about 33–34 mm.). Skull of about the same length (upper length 11 mm.), but differently proportioned, the brain-case large, high, and much inflated, the muzzle short and stumpy. No basisphenoid septum. (New Guinea.) . . . . . *E. papuana*, sp. n.

Details of *E. papuana*:—

Dimensions of type (italicized measurements taken in flesh):—

*Head and body* 38 mm.; *tail* 11; *ear* 10. Third finger, metacarpus 30, first phalanx 8·8; lower leg and foot 16.

Skull: upper length 10·9; basi-sinual length 8·2; zygomatic breadth 8; interorbital breadth 3·2; brain-case, height 6, breadth 6·2; front of canine to back of  $m^3$  4·3.

*Hab.* (of type). Wakatimi, Mimika River, S.W. Dutch New Guinea.

*Type.* Adult male. B.M. no. 11. 11. 11. 13. Original number 2571. Collected 7th March, 1911. Presented by the B.O.U. Expedition to New Guinea.

More than a dozen specimens of this species are in the Museum collection, its range extending from the type-locality to the eastern end of the island.

*Echymipera gargantua*, sp. n.

Similar to *E. doreyana* in general characters, but size much larger—the skull 82–88 mm. in condylo-basal length, instead of about 70–73 mm.

Dimensions of the type (measured in flesh):—

Head and body 410 mm.; hind foot 74; ear 31.

Skull: condylo-basal length 83; zygomatic breadth 30.5; length of nasals 36.5; intertemporal breadth 14.8; height from condyle to occipital protuberances 23; palatal length 51.5; combined length of three anterior molariform teeth 12.8.

*Range.* New Guinea and D'Entrecasteaux Islands. Type from Mimika River, S.W. Dutch New Guinea.

*Type.* Young adult male. B. M. no. 11. 11. 11. 97. Original number 3045. Collected 30th August, 1910, by G. C. Shortridge. Presented by the B.O.U. Expedition to New Guinea.

After renewed consideration I have come to the conclusion that it is impossible to consider the very large *Echymipera*, of which skull-measurements have been occasionally published\*, as the same species as *E. doreyana*. I have before me three of the large form and twelve of the smaller, and among these latter there are individuals of both sexes and all ages; and the only explanation seems to be that there are really two species occurring in the same area, and as distinct from each other by size as are the stoat and the weasel.

The gap in size of skull between the two is very marked, both in actual length (73 mm. in the largest *doreyana*, 83 in the smallest *gargantua*) and in general bulk.

With regard to nomenclature, all the names seem to have been applied to the smaller of the two forms. Dr. Jentink, as I did formerly, considered them all one; but his measures show the same gap as ours do. Whether any of the large form were before Dr. Cohn when writing his somewhat eccentrically prepared paper on the group† is not clear, as he only gives proportional (and not absolute) measures; but, in any case, if they were, he took them for the typical *doreyana*, giving the duplicate names *alticeps* and *breviceps* to the smaller form, and *keiensis* to the Key Island one, which already had a special name (*rufescens*).

It may be noted that the type of *doreyana* was an old male with much worn teeth, and that its skull-length is conspicuously less than is that of the type of *gargantua*, which is a youngish adult, its teeth almost unworn. The largest *gargantua* attains a condylo-basal length of 88 mm.

\* *E. g.*, Thos. Cat. Mars. B. M. p. 249, the male specimen, and Jentink, Nova Guinea, ix. p. 179. Male no. 306 and male without number.

† Zool. Anz. 1910, p. 718.